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10/809,803	03/26/2004	Kengo Matsumoto	50395-263	7165

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EXAMINER

ELLIS, SUEZU Y

ART UNIT PAPER NUMBER

2878

DATE MAILED: 10/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/809,803

Applicant(s)

MATSUMOTO, KENGO

Examiner

Suezu Ellis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,10 and 11 is/are rejected.
- 7) ☒ Claim(s) 3-9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

The information disclosure statement (IDS) submitted on August 4, 2004 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Specification***

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

The specification seems to lack antecedence basis for the claimed subject matter of the division ratio being determined by a ratio of the first resistor to the sum of the first and second resistors (claim 10).

### ***Claim Objections***

Claim 6 is objected to because of the following informalities: In line 4, the word "thorough" does not make sense. Perhaps applicant intended "through". Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Nishiyama.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

With respect to claims 1 and 11, Nishiyama discloses in Fig. 1, an optical receiver comprising a bias supply voltage circuit (voltage source - 2) having an input

and output wherein a bias voltage is outputted via the output to an avalanche photodiode (APD - 1) ([0017]). Nishiyama further discloses the inclusion of a voltage divider (3) having a division ratio and the bias voltage is fed back to the input of the bias supply circuit ([0038]). Nishiyama further discloses the voltage divider has a variable resistor (3a) which can be adjusted in accordance to the temperature monitored by a temperature sensor that is included in the resistor and so the output of the voltage divider can be varied as the temperature changes, thus a temperature compensation circuit is inherent ([0051]).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 10 is rejected under 35 U.S.C. 103(a) as being obvious over Nishiyama.

The applied reference has a common assignee with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed

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in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(I)(1) and § 706.02(I)(2).

With respect to claim 10, Nishiyama discloses the voltage divider (3) includes a first resistor (3b) and a second resistor (3a) which are connected in series, wherein the second resistor is coupled to the output of the voltage source (bias supply circuit) and the first terminal is grounded ([0021]). Nishiyama fails to expressly disclose the division ratio is determined by a ratio of the first resistor to the sum of the first and second resistors, however it is well known in the art for the ratio to be the voltage at a particular resistor divided by the sum of the other resistors in series.

Claim 2 is rejected under 35 U.S.C. 103(a) as being obvious over Nishiyama in view of Lau et al. (US 4,153,835). Hereinafter, Lau et al. will be referred to as Lau.

With respect to claim 2, Nishiyama addresses all the limitations of claim 1, however fails to expressly disclose the temperature compensation circuit adjusting the dividing ratio as a linear function to temperature. Nishiyama and Lau are directed to a similar field of endeavor of temperature compensation circuitry. Lau discloses a circuit that compensates for temperature comprising a plurality of resistors forming a voltage

divider wherein the resistors separate into two branches, wherein one branch has a temperature sensor. Lau further discloses the branches are adapted so that the ratio of the resistance of the branch containing a temperature sensor to the sum of resistances of both branches can be a linear function of temperature (col. 2, lines 17-26). It would have been obvious to modify the division ratio so that it is a linear function to temperatures to improve receiver sensitivity at low voltage operations (col. 2, lines 44-48).

***Allowable Subject Matter***

Claims 3-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

With respect to claim 3, prior art fails to teach or reasonably suggest a temperature compensation circuit comprising a differential amplifier having an inverting input, a non-inverting input and an output, wherein the differential amplifier operates in an inverting mode, a coupling resistor for coupling the output of the different amplifier to the input of the bias supply circuit and a temperature sensing resistor connected between the inverting input and the output of the differential amplifier wherein the temperature sensing resistor senses a temperature of the light receiving device, in addition to the limitations of claim 1.

Claims not specifically addressed would be allowable due to their dependency.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Casper et al. (US 4,438,348) discloses a temperature compensated avalanche photodiode optical receiver circuit comprising a bias supply circuit, a voltage divider and a temperature compensation circuit. Casper et al. fails to disclose feeding back a divided bias voltage to the input of the bias supply circuit.

***Telephone/Fax Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Suez Ellis whose telephone number is 571-272-2868. The examiner can normally be reached on 8:30am-5pm (Monday-Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Stephane B. Allen  
Primary Examiner